Electropolish Program Status at JLAB

3/16/06

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General comments: Made progress on both process development and process running

1. **ADAPT PRODUCTION EP TOOLING TO 9-CELL CAVITY**
    a. Tested metering pump for adding HF to the chemical sump, changed ladder logic program
    b. New end plates in fabrication to set cathode 1cm from iris
    c. Commissioned system with water
    d. Cathode extraction system in fabrication
    e. Cavity blank –off flanges in fabrication
    f. What still needs to happen:
        1. Remove cavity and measure field flatness and cell thickness
        2. Replace end plates and test cathode extraction
        3. Fill sump with acid
        4. Determine if heat exchanger control adequate for the process
        5. Milestone #1 – Established 1.3GHz EP Capabilities
2. **DEVELOP ASSEMBLY PRODUCTION PROCEDURES**
    a. Cavity now mounted in the vertical test frame
    b. Vacuum pipe fabricated and being installed
    c. Cavity alignment in go no-go plates received
    d. Production procedures reviewed/approved for EP processing, first assembly procedure written
    e. Decision to use A286 hardware and locating all bolts
    f. What still needs to happen:
        1. Identify proper torque spec's for A286 hardware and these flanges
        2. Lower test stand by 17 inches
        3. Order RF amplifier 500W 1.27-1.32 GHz Bandwidth
        4. Process and assembly S35
        5. Identify process improvements
        6. Milestone #2 – Establish Performance Baseline for Balance of Process
        7.
3. **DEVELOP EP PRODUCTION PROCEDURES**
    a. So far nothing has happened here until we can start up EP system
4. **PROCESS DEVELOPMENT**
    a. Performed first bench experiment with generating sulfur in over potential conditions

1. Results: Identified sulfur deposits and was DC scanned for field emission onset at 120MV/m
2. Film formed on surface of acid and when drained left on container which could not be removed by DI water, Micro and DI water

b. Hui Tien, started second experiment with understanding


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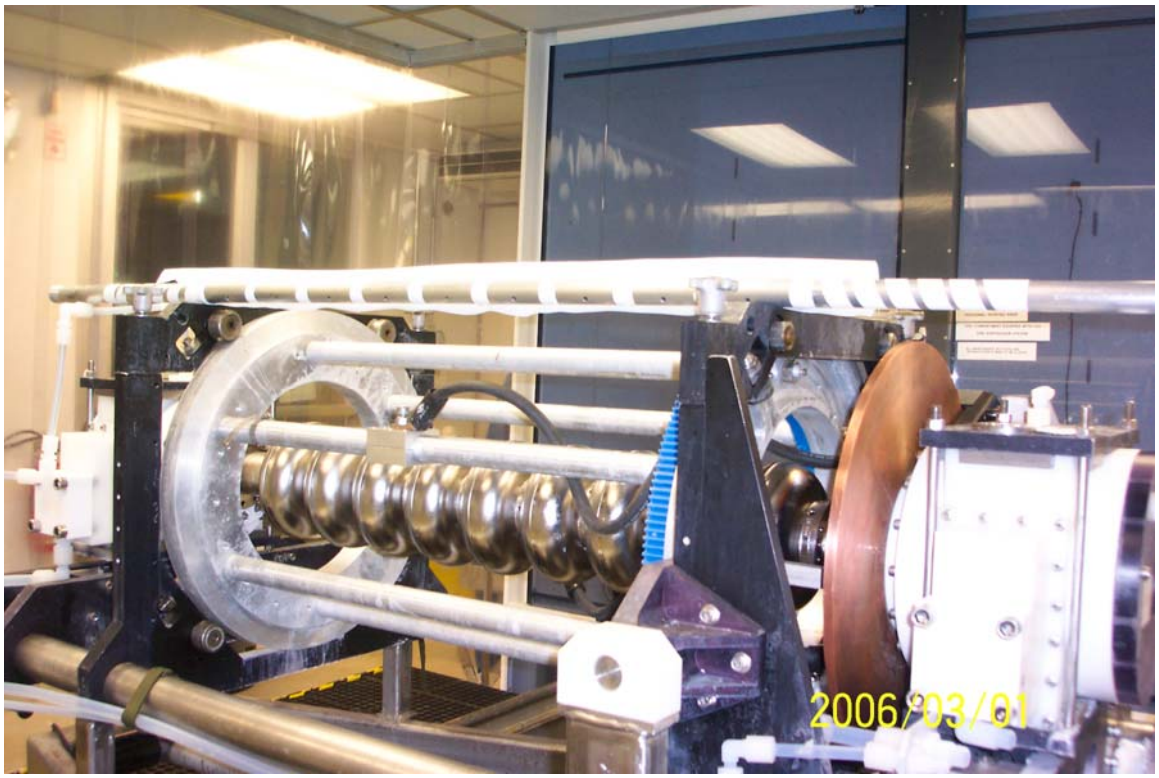
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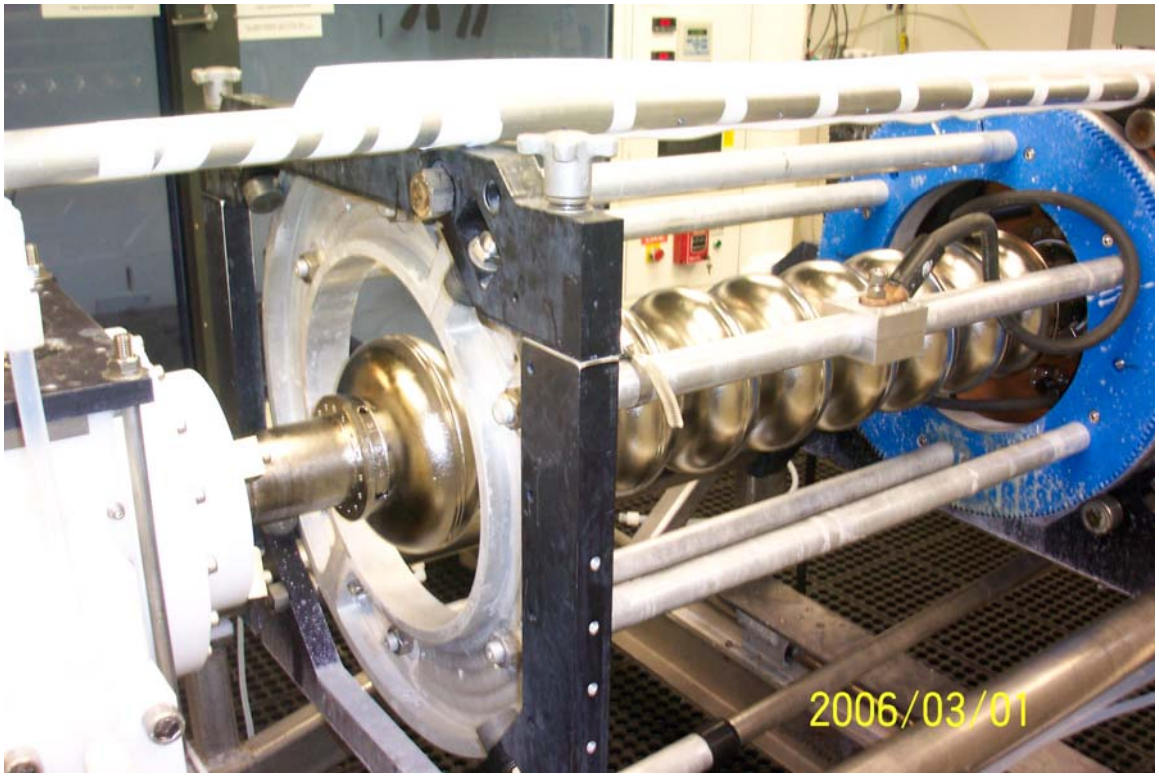
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